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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,334

Applicant(s)

LINDEMANN ET AL.

Examiner

Muktesh G. Gupta

Art Unit

2444

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. **Claims 1-13** were cancelled with previous amendment
Claims 14-31 are amended.
Claims 32-35 are added and new.
Claims 14-35 are presented have been examined on merits and are pending in this application.

Continued Examination under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/06/2009 has been entered.

Response to Amendment

3. Acknowledgment is made for Applicants Amendments for claims filed on 04/06/2009.
Applicants Amendment necessitated updating search and hence new grounds of rejections.
Applicant's arguments are deemed moot in view of the new grounds of rejection as explained here below, necessitated by Applicant's amendment to the claims,

(i.e. "determining whether a message header entry characterizing an expanded packet-oriented protocol is within the message header entries; and transferring the unique address of the first network element to the external device without converting the unique address of the first network element after a message header entry characterizing an expanded packet-oriented protocol is determined to be within the message header entries") which significantly affected the scope thereof.

Applicant's arguments with respect to amended claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 14-35** rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 7099944 to Anschutz; Thomas et al., (hereinafter "Anschutz").

As to Claims 14 and 28, Chiles teaches, method and apparatus for transparently exchanging data packets of a packet-oriented network by a network node

device, the packet oriented network comprised of at least one network element connected to the network node device, each network element having a unique address within the packet-oriented network, the network node devices utilizing the method comprising (as stated in col. 6, lines 7-10, col. 3, lines 50-54, col. 4, lines 43-48, col. 5, lines 18-38, FIG. 4 shows a flow chart for an exemplary method 400 for providing independent or personalized IP service sessions to a plurality of IP enabled devices residing on a LAN using the Internet access architecture 300 depicted in FIG. 3. Many homes and small businesses now have a plurality of IP enabled devices residing on a local area network (LAN) that are supported by a single Internet access device such as a DSL router/modem. Router/modem 104 can be replaced with an access device (e.g., residential gateway 304) that manages an IP access session and individual IP service sessions for a plurality of networked IP enabled devices (e.g., PC 103, IP Telephone 301, PC 302, Appliance 303) at the particular access site (e.g., home 102a). The access device typically comprises a layer 2/3 communications element which is managed by the operator of access provider network 301 and has some or all of the following additional functionality: provides local (private) addresses for use within the home network via an embedded DHCP server. The DHCP server temporarily allocates or leases a unique IP address to the IP client/devices; performs network address and port translation (NAT/NPAT) so that the IP enabled devices can use their private address to reach public-address locations and services; obtains a single household public IP address for communications with the access service provider network (by using a DHCP client in a preferred embodiment, alternately by using PPPoE or a like

protocol); allows the creation of tunnels directly through the device; initiates alternate or additional PPPoE access sessions so that a group of devices on the home network may share communal services and/or a communal ISP; acts as a proxy for simple IP enabled devices on the home network (e.g., IP phones, gaming consoles, set top boxes, and the like) so they may access network and ISP services over the Internet):

setting up a connection between a first network element and the external device (as stated in col. 6, lines 12-20, lines 31-34, In step 401 the process starts. In step 405 the access device (e.g., residential gateway 304) is powered on. Upon power up the access device establishes communication with access provider network 301 and requests an IP address from access provider network 301. In response to the request by the access device, in step 410 the access device receives an IP address for obtaining IP services available within access provider network 301 only (i.e., IP dialtone) from an element in access provider network 301. In step 415 the access device establishes a PPP session with a pre-designated community ISP (e.g., ISP network 113) for the IP enabled devices residing on the home LAN and requests an IP address from the ISP);

verifying message header entries of data packets exchanged between the external device and the first network element (as stated in col. 6, lines 34-37, lines 49-52, In step 420 the ISP responds to the request and transmits IP traffic to the access device containing the IP address allocated to the access device by the ISP. In step 430 the access device receives IP traffic. In step 435 the access device examines a header

in a packet to determine if its destination address is the IP dialtone or ISP address of the access device);

establishing a temporarily transparent connection between the first network element and the external device (as stated in col. 6, lines 38-45, Residential gateway 304 establishes a PPP connection to ISP network 113 via access provider network 301 and sends a default username and domain to an element in ISP network 113. The element in ISP network 113 authenticates the username and domain, allocates a public IP address, and transmits IP traffic back to the access device containing the public IP address and network settings associated with the address in addition to other information. The element in ISP network 113 authenticates the username and domain, allocates a public IP address, and transmits IP traffic back to the access device containing the public IP address and network settings associated with the address in addition to other information);

determining whether a message header entry characterizing an expanded packet-oriented protocol is within the message header entries (as stated in col. 5, lines 39-51, col. 7, lines 3-12, Access device inspects packets and assigns different IP QoS, Ethernet QoS, or ATM QoS capabilities inherent in the access architecture; and/or routes the plurality of connections. This added functionality allows the access gateway to distinguish between IP traffic utilizing an ISP provided IP address and IP traffic utilizing an IP address provided by e-center 317 (i.e., IP dialtone). Typically the access device gateway also will utilize an IP address translation protocol such as Network Address Translation (NAT) protocol to more efficiently utilize the IP addresses space. In

step 440 the process determines whether the destination IP address lies within the access provider network 301. If the determination in step 440 is no, the access device forwards the IP traffic to ISP network 113 via access provider network 301 at layer 2 with the ISP provided address of the access device as the source address of the IP traffic and proceeds to step 455):

and transferring the unique address of the first network element to the external device without converting the, unique address of the first network element after a message header entry characterizing an expanded packet-oriented protocol is determined to be within the message header entries (as stated in col. 7, lines 12-12, In other words, the access device replaces the source IP address of the IP traffic with the ISP provided address of the access device and places the IP traffic in the PPPoE connection extending from the access device to ISP network 113. In step 455 the access device updates a table in its memory mapping the service session to the appropriate IP enabled device. The process then proceeds to step 470).

As to Claim 15, Chiles teaches, method according to claim 14, wherein the unique address of the first network element is assigned by the external device while the connection is set up between the first network element and the external device (as stated in col. 6, lines 31-45, In step 415 the access device establishes a PPP session with a pre-designated community ISP (e.g., ISP network 113) for the IP enabled devices residing on the LAN and requests an IP address from the ISP. In step 420 the ISP responds to the request and transmits IP traffic to the access device containing the IP

address allocated to the access device by the ISP. In this embodiment of the invention, residential gateway 304 establishes a PPP connection to ISP network 113 via access provider network 301 and sends a default username and domain to an element in ISP network 113. The element in ISP network 113 authenticates the username and domain, allocates a public IP address (unique address), and transmits IP traffic back to the access device containing the public IP address and network settings associated with the address in addition to other information).

As to Claims 16-17 and 35, Chiles teaches, method according to claims 14 and 28, wherein a modulation/demodulation device connects the external device to the network node device such that the network node device exchanges data packets of the packet oriented-network with the external device via the modulation/demodulation device (as stated in col. 1, lines 15-19, lines 25-32, col. 2, lines 45-64, The service model for receiving Internet Service Provider (ISP) based services from sources on the Internet today assumes the exclusive use of an Internet access session by a single device or IP client in a one to one correspondence with a single ISP. Dial-up access also can allow switching the access session on demand among service providers that attach to the Public Switched Telephone Network (PSTN) in some instances. That is, today's service model assumes that each connection to a service provider using an access device, be it a dial-up modem (modulation/demodulation device) connection, DSL modem connection, cable modem connection, or other type of access session will be utilized by a single IP enabled device. Each of the new layer 2/3 communications

elements in access provider network 201 support the creation of layer 3 communications sessions between various communications elements within and without access provider network 201 using layer 3 protocols such as IP. The new layer 2/3 communications elements also support the creation of virtual layer 2 communications sessions or "virtual PVCs" as they were used in network 100, using one or more of the following protocols: Point-to-Point Protocol (PPP) over Ethernet (PPPoE), PPP over ATM (PPPoA), Layer 2 Tunneling Protocol (L2TP), Point-to-Point Tunneling Protocol (PPTP), and/or Switched Multimegabit Data Service (SMDS) Interface Protocol (SIP). Thus, rather than having a single layer 2 PVC (e.g., PVCa 118a) extending from an access device to an ISP through the access provider network as in architecture 100, with architecture 200 a series of three layer 2 virtual PVCs (e.g., PVC1a 207a, PVC2a 208a, and PVC3a 209a) extend from an access device (e.g., ADSL modem 104) to an ISP (e.g., ISP network 113) through access provider network 201).

As to Claims 18-20, Chiles teaches, method according to claims 14, 15 and 16, wherein a verification is carried out before the transparent connection for the first network element is set up to determine whether a transparent connection already exists for at least one other network element (as stated in col. 7, lines 20-30, In step 455 the access device updates a table in its memory mapping the service session to the appropriate IP enabled device. In step 460 the access device determines the identity of the IP enabled device on the LAN that is the intended recipient of the IP traffic. If other

IP traffic has already been exchanged between the intended recipient and the source of the IP traffic the access device consults its table mapping to determine the IP enabled device that is the intended recipient).

As to Claims 21-22, Chiles teaches, method according to claims 14 and 15, wherein a maximum number of transparent connections is defined depending on a specification of the external device (as stated in col. 7, lines 41-60, With the ability to provide independent personalized IP sessions over a single access session, the invention also allows the operator of access provider network 301 to offer different qualities of service (QoS) for each service session. For instance, the operator of access network 301 can apply high QoS for VoIP traffic being exchanged between PSTN gateway 311 and IP telephone 301, while simultaneously applying very low quality of service to IP traffic being exchanged between PC 302 and the Internet 115 via ISP network 113 or 314. Moreover, the operator of access provider network 301 can guarantee a specified QoS for a particular service session if the IP traffic being exchanged in that service session need not exit access provider network 301. For example, because VoIP traffic being exchanged between IP telephone 301 and PSTN gateway with the IP dialtone never exits access provider network 301 the operator of access provider network 301 controls the entire communications path of the VoIP traffic and therefore can guarantee a certain QoS for this service session).

As to Claim 23, Chiles teaches, method according to claim 21 further comprising establishment of the transparent connection if another network element already has a transparent connection established (as stated in col. 5, lines 52-60, In addition to the functionality discussed in connection with access provider network 201, in access architecture 300 the layer 2/3 communications elements in access provider network 301 lying near the ingress points for IP traffic from IP enabled devices (e.g., ingress BB GW 202a) have the following additional functionality: the ability to support multiple ATM VCs to a given customer; the ability to support multiple PPPoE access sessions on one or more ATM VCs. This additional functionality allows the ingress layer 2/3 communications element to recognize and handle multiple instances of IP service sessions occurring at both layer 2 and layer 3).

As to Claim 24, Chiles teaches, according to claim 21 further comprising cancelling an existing transparent connection and subsequently establishing a transparent connection between the external device and second network element (as stated in col. 5, lines 18-35, The access device typically comprises a layer 2/3 communications element which is managed by the operator of access provider network 301 and has some or all of the following additional functionality: provides local (private) addresses for use within the home network via an embedded DHCP server; performs network address and port translation (NAT/NPAT) so that the IP enabled devices can use their private address to reach public-address locations and services; provides a local name service (DNS) and resolves ambiguity that may arise from multiple

connections to different name services at different ISPs; obtains a single household public IP address for communications with the access service provider network (by using a DHCP client in a preferred embodiment, alternately by using PPPoE or a like protocol); allows the creation of tunnels directly through the device; initiates alternate or additional PPPoE access sessions so that a group of devices on the home network may share communal services and/or a communal ISP; acts as a proxy for simple IP enabled devices on the home network (e.g., IP phones, gaming consoles, set top boxes, and the like) so they may access network and ISP services).

As to Claim 25, Chiles teaches, method according to claim 14 further comprising terminating the existing transparent connection after a connection release request is detected (as stated in col. 5, lines 61-67, col. 6, lines 1-6, The ingress layer 2/3 communications elements in architecture 300 may also have the ability to associate PPP access sessions with a set of L2TP tunnels or VPNs that represent an ISP, based on the domain name provided in the PPP protocol authentication phase, and/or the ability to terminate PPP sessions and then route that traffic (as well as the non-encapsulated IP-Ethernet frames) using standard router techniques and protocols (e.g., the ability to forward DHCP requests using DHCP Relay as is typically found in router feature sets). This additional functionality allows the ingress layer 2/3 communications element to recognize and handle multiple instances of IP service sessions occurring at both layer 2 and layer 3).

As to Claim 26, Chiles teaches, method according to claim 25, wherein the connection release request is triggered when no data packets have been exchanged according to the expanded packet-oriented protocol within a predefined time period (as stated in col. 1, line 15-30, Dial-up access also can allow switching the access session on demand among service providers that attach to the Public Switched Telephone Network (PSTN) in some instances. That is, today's service model assumes that each connection to a service provider using an access device, be it a dial-up modem connection, DSL modem connection, cable modem connection, or other type of access session will be utilized by a single IP enabled device (It was well known is Networking field, at the time of invention, that Dial-up modem connection session with ISP for Internet services would use to terminate if there were no data packets were exchanged within a predefined time period)).

As to Claim 27 and 34, Chiles teaches method according to claim 14, wherein the communication of the at least one network element with the network node device is effected according to the Internet protocol or according to the PPPoE communication protocol (as stated in col. 3, lines 3-12, col. 5, lines 18-49, In a preferred embodiment of the invention the first layer 2 PVC is a user authenticated PPPoE session where the IP enabled device (or the operator thereof) supplies a username and domain (e.g., "user1@domain1"). Based on the domain provided, the first layer 2/3 communications element establishes a virtual layer 2 connection using L2TP over the remaining two layer 2 PVCs to reach the appropriate ISP and the ISP provides the IP enabled device

an IP address for obtaining IP based services from. The access device typically comprises a layer 2/3 communications element which is managed by the operator of access provider network 301 and has some or all of the following additional functionality: provides local (private) addresses for use within the home network via an embedded DHCP server; performs network address and port translation (NAT/NPAT) so that the IP enabled devices can use their private address to reach public-address locations and services; provides a local name service (DNS) and resolves ambiguity that may arise from multiple connections to different name services at different ISPs; obtains a single household public IP address for communications with the access service provider network (by using a DHCP client in a preferred embodiment, alternately by using PPPoE or a like protocol); allows the creation of tunnels directly through the device; initiates alternate or additional PPPoE access sessions so that a group of devices on the home network may share communal services and/or a communal ISP; acts as a proxy for simple IP enabled devices on the home network (e.g., IP phones, gaming consoles, set top boxes, and the like) so they may access network and ISP services; inspects packets and assigns different IP QoS, Ethernet QoS, or ATM QoS capabilities inherent in the access architecture; and/or routes the plurality of connections. This added functionality allows the access gateway to distinguish between IP traffic utilizing an ISP provided IP address and IP traffic utilizing an IP address provided by e-center 317 (i.e., IP dialtone). Typically the access site gateway also will utilize an IP address translation protocol such as Network Address Translation (NAT) protocols to more efficiently utilize the IP address space).

As to Claim 29, Chiles teaches, network node element according to claim 28, wherein the network node element is a router (as stated in col. 3, lines 50-54, col. 5, lines 13-17, For instance, many homes and small businesses now have a plurality of IP enabled devices residing on a local area network (LAN) that are supported by a single Internet access device such as a DSL router/modem. The LAN at an access site may be formed with any number of networking technologies including, but not limited to, Ethernet, homeRF, CableHome, HomePNA, IEEE 802.11 wireless LAN, and the like).

As to Claims 30 and 31, Chiles teaches, network node element according to claims 28 and 29, wherein the at least one monitoring unit controls at least one bridging device of the network node element (as stated in col. 5, lines 52-67, col. 6, lines 1-6, In addition to the functionality discussed in connection with access provider network 201, in access architecture 300 the layer 2/3 communications elements in access provider network 301 lying near the ingress points for IP traffic from IP enabled devices (e.g., ingress BB GW 202a) have the following additional functionality: the ability to support multiple ATM VCs to a given customer; the ability to support multiple PPPoE access sessions on one or more ATM VCs; and the ability to support plain bridged IP-Ethernet frames on one or more ATM VCs. The ingress layer 2/3 communications elements in architecture 300 may also have the ability to associate PPP access sessions with a set of L2TP tunnels or VPNs that represent an ISP, based on the domain name provided in the PPP protocol authentication phase, and/or the ability to terminate PPP sessions and

then route that traffic (as well as the non-encapsulated IP-Ethernet frames) using standard router techniques and protocols (e.g., the ability to forward DHCP requests using DHCP Relay as is typically found in router feature sets). This additional functionality allows the ingress layer 2/3 communications element to recognize and handle multiple instances of IP service sessions occurring at both layer 2 and layer 3).

As to Claim 32-33 *Chiles discloses method of claim 14 and 28 wherein the expanded packet-oriented protocol is PPPoE* (as stated in col. 5, lines 18-38, The access device typically comprises a layer 2/3 communications element which is managed by the operator of access provider network 301 and has some or all of the following additional functionality: provides local (private) addresses for use within the home network via an embedded DHCP server; performs network address and port translation (NAT/NPAT) so that the IP enabled devices can use their private address to reach public-address locations and services; provides a local name service (DNS) and resolves ambiguity that may arise from multiple connections to different name services at different ISPs; obtains a single household public IP address for communications with the access service provider network (by using a DHCP client in a preferred embodiment, alternately by using PPPoE or a like protocol); allows the creation of tunnels directly through the device; initiates alternate or additional PPPoE access sessions so that a group of devices on the home network may share communal services and/or a communal ISP; acts as a proxy for simple IP enabled devices on the

home network (e.g., IP phones, gaming consoles, set top boxes, and the like) so they may access network and ISP services).

Remarks

5. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.
- a. Chiles, David Clyde et al. (US 20010034759 A1) Home-networking
 - b. Owens, II; John Barclay et al. (US 7428585 B1) Local device access controls
 - c. Meenan; Patrick et al. (US 7383339 B1) Local proxy server for establishing device controls
 - d. Freund, Gregor et al. (US 20030167405 A1) System methodology for automatic local network discovery and firewall reconfiguration for mobile computing devices

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muktesh G. Gupta whose telephone number is 571-270-5011. The examiner can normally be reached on Monday-Friday, 8:00 a.m. -5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on 571-272-3922. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MG

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444